

## MINUTES OF DOT-AGC BRIDGE DESIGN SUBCOMMITTEE MEETING

The DOT-AGC Joint Bridge Design Subcommittee met on January 23<sup>rd</sup> 2002. Those in attendance were:

Tim Rountree	State Bridge Design Engineer (Co-Chairman)
Berry Jenkins	Manager of Highway Heavy Division, Carolinas Branch AGC (Co-Chairman)
Ron Shaw	Lee Construction Company of Carolinas, Inc.
Michael Dane	Dane Construction, Inc.
Kevin Burns	R. E. Burns & Sons Co.
Richard Holshouser	Sanford Contractors, Inc.
Ron Hancock	State Bridge Construction Engineer
Greg Perfetti	Assistant State Bridge Design Engineer
Paul Lambert	Structure Design Project Engineer
Tom Koch	Structure Design Project Engineer
David Greene	Material and Tests Engineer
Mohammed Mulla	State Soils and Foundations Engineer
Chris Kreider	Soils and Foundations Engineer
K J Kim	Soils and Foundations Engineer
John Erwin	Structure Design Project Design Engineer (Secretary)

The following items of business were discussed:

1. The minutes of the November 28, 2001 meeting were accepted with the exception of *Item 5: (iii) Submittal for Miscellaneous steel items*. Mr. Lambert stated that the required submittal of anchor bolt shop drawings had been waived prior to the discussion in the November meeting and did not need to be included in the minutes.
2. *Precast Box Culvert Update*

Mr. Perfetti stated that the scheduled meeting on January 4, 2002 with Construction, Materials and Tests and the precast culvert manufacturers had been cancelled and rescheduled for February 1, 2002.

Mr. Jenkins stated that since the last meeting he has received several calls from precasters and contractors expressing concern that the DOT was disallowing the use of precast box culverts. Mr. Rountree responded this was not the case but, due to recent constructability and performance problems, the use of precast culverts was being reviewed on a case by case basis. Mr. Jenkins stated that the problems associated with precast culverts should be presented to the precast box culvert manufacturers and allow them the opportunity to come together and propose solutions. After some discussion it was decided that no action will be taken pending the results of the February 1 meeting.

### 3. *Shear Stud Update*

Mr. Jenkins reported that a public hearing to discuss the proposed amendment to the Federal OSHA policy requiring shear studs to be field welded will be held Tuesday, January 29, 2002, at 10 a.m. in the N.C. Department of Labor training room. The proposed amendment can be viewed on [www.dol.state.nc.us/steel.pdf](http://www.dol.state.nc.us/steel.pdf).

Mr. Jenkins stated that the US Department of Labor has adopted the N.C. approach with respect to allowing the studs to be covered or extending the limits of fall protection as alternative choices to field welding the shear studs.

Mr. Rountree stated that since the introduction of the Federal OSHA policy, Carolina Steel has refused to shop weld the shear connectors. Mr. Jenkins and Mr. Holshouser responded that presently Carolina Steel has agreed to shop weld the studs if the contractor provides a waiver of indemnity.

### 4. *Test Cylinder Storage*

Mr. Hancock proposed that a specification regarding test cylinder storage be included in the contract such that the contractor is required to provide the on site cylinder curing box and the DOT is required to provide the transport box. Mr. Hancock stated that one option would be to provide contractors with 3 suppliers of acceptable storage boxes and allow them the choice.

Mr. Hancock discussed another option where the concrete supplier provides storage and transport boxes to be used on a project since the concrete industry has complained that current storage methods are causing low cylinder breaks.

Mr. Burns and Mr. Shaw stated a preference for the storage and transport boxes being provided by the contractor and approved by the Resident Engineer instead of including specifications on the storage facility in the contract. Mr. Burns proposed that the contractors be allowed time to resolve the issue.

It was agreed that this needed to be discussed at the next Ready Mix Producers meeting. Mr. Hancock stated that he would continue to research these issues and report back to the committee.

### 5. *Unclassified Structure Excavation*

It was suggested that unclassified structure excavation be paid for lump sum instead of the current policy of cubic yards. Several years ago, the policy stated that unclassified structure excavation in excess of 100 yd<sup>3</sup> was handled as a unit price bid item. An unclassified excavation total less than 100 yd<sup>3</sup> was considered incidental to the cost of the end bent. Due to the inaccuracy involved with computing this quantity, the policy was changed to its current status.

Mr. Burns stated that disagreements always exist between the contractor and the DOT in measuring the actual amount of structure excavation. For this reason, he feels unclassified structure excavation should be a lump sum pay item.

After discussion it was decided that if the total amount of unclassified structure excavation, on a per bridge basis, exceeds 500 yd<sup>3</sup> then it would be listed as a unit price bid item in the contract. Otherwise, unclassified structure excavation would be a lump sum bid item.

Mr. Rountree stated that the structure excavation estimate would continue to be listed on the plans regardless of the amount.

The Structure Design Unit will continue implementing this change in policy.

## 6. *Other*

### *i. Low Concrete Strength Penalties*

Mr. Hancock stated that he was considering making the assessment of penalties due to low strength cylinder breaks a part of contract language. Mr. Hancock stated that Virginia does this.

Mr. Hancock stated he would bring a proposal for discussion to the next meeting.

### *ii. Conduit Systems on Bridges*

Mr. Jenkins presented a letter to the committee from Smith-Rowe, Inc. regarding the current specification requiring a licensed electrical contractor to install conduit systems on the bridge. Mr. Holshouser asked if the conduit could be installed by the contractor and then inspected by a licensed electrical contractor. Mr. Koch stated that he would investigate this matter and report back at the next scheduled meeting.

### *iii. Piles and Coatings*

Mr. Holshouser encouraged the DOT to consider the bid alternate for pipe piles in lieu of prestressed concrete piles. For example, consider the 18 inch steel pipe pile for the 20 inch concrete pile. Mr. Mulla stated the pipe pile, in addition to composite piles, would continue to be specified where driving of concrete piles is not feasible. However, there are concerns about the use of pipe piles in corrosive environments.

Mr. Hancock asked for the contractor's preference between galvanized coating or coal tar epoxy coating on steel "H" piles. Mr. Holshouser stated that the coal tar epoxy coating is difficult to handle without scratching the coating. Mr. Holshouser stated the galvanized coating would be the preference but the length of the galvanizing beds needs to be investigated in order to establish a maximum length of pile that could be galvanized. Soils and Structures committed to discussing further and reporting back at a future meeting.

*iv. Reinforced Bridge Approach Fills*

Mr. Holshouser asked if it was necessary to extend the reinforced bridge approach fill and drain to one-foot below the end bent cap. Mr. Holshouser stated that in some bridge locations, especially near the coast, removing the undisturbed soil below the bottom of the cap in order to place the reinforced fill and drain causes more problems than it solves. Mr. Kim stated that a previous detail did not require the drain to be placed at this elevation. Structures and Soils and Foundation Unit will look into this issue.

*v. Design Build Projects*

Mr. Jenkins stated he was asked to provide feedback to the Department about the use of design build projects. He also said there was no truth to the assertion that the AGC was pushing for an increase in design build projects.

*vi. Lump Sum Projects*

Mr. Rountree stated the following projects would be advertised as a lump sum bid basis in the April letting:

- B-3125 Caldwell County
- B-3170 Edgecombe County
- B-3329 Edgecombe County

Mr. Rountree stated that bridge projects classified as “lump sum” generally consisted of several bid items instead of the whole project being just one item.

*vii. Concrete Deck Pours*

Mr. Holshouser stated that consideration should be given to combining small pours and making some of the construction joints permissible rather than required. He feels that some of the required pours are too small and should be a minimum of 100 cubic yards where practicable. Mr. Hancock stated that the current policy for detailing deck joints, based on the Wisconsin DOT Pouring method, has been effective at reducing deck cracking. Structure Design committed to revisiting the policy.

*viii. Next Meeting*

The next meeting is scheduled for March 27<sup>th</sup> at 10:00 a.m. in the Structure Design Unit Conference Room C.